May 2018

UTAH BUREAU OF LAND MANAGEMENT

AIR RESOURCE MANAGEMENT STRATEGY (ARMS)

NINE MILE CANYON AIR MONITORING SITE

Utah BLM Air Resource Management Strategy

Introduction

The Bureau of Land Management (BLM) initiates and authorizes activities that can affect air resources by releasing pollutants to the atmosphere. The Federal Land Policy Management Act (FLPMA) guides the BLM to manage the public lands in a manner that will protect the quality of air and atmospheric values, and requires the BLM's land use plans provide for compliance with applicable air pollution standards or implementation plans. In addition, the National Environmental Policy Act (NEPA) requires the BLM to analyze potential environmental impacts of actions it initiates or authorizes and to discuss means to mitigate adverse environmental impacts. In response to the requirements and intent of this guiding legislation the Utah BLM has prepared this Air Resource Management Strategy (ARMS). Finally, the ARMS will ensure Utah BLM NEPA analysis is consistent with the National MOU Regarding Air Quality Analysis and Mitigation for Federal Oil and Gas Decisions through the NEPA Process (MOU).

ARMS GOAL

Proactively manage air quality and atmospheric values during land management planning and when authorizing uses of the public lands while maintaining BLM's multiple-use management responsibilities

Because air pollution does not stop at county, state, or tribal lines the science and practice of air pollution control has been moving to managing air quality on an airshed basis, rather than limiting management based on political boundaries. A core concept of airshed management is the "one atmosphere" approach, which addresses all pollutants of concern in an area holistically, rather than addressing each separately which can be inefficient and counter-productive. Another core concept of the airshed management approach is to engage the community, residents, businesses, local, state and tribal governments in decisions about the best course for protecting air quality. To that end BLM Utah actively seeks out and participates in collaborative airshed management partnerships.

ARMS OBJECTIVES

- Ensure that air resources on BLM managed lands complies with applicable air pollution standards or implementation plans, and that activities authorized by BLM do not lead to violations of these standards or plans.
- Ensure Air Quality Related Values (AQRV) in Class 1 and sensitive Class II areas in Utah and adjacent states are not adversely impacted by activities authorized by BLM.
- Work collaboratively and in partnerships with others to bring about the best achievable air quality within BLM lands and Utah in general.
- Provide certainty and transparency for agencies, project proponents, and the public regarding the conduct and review of air resource and AQRV impact analyses in the NEPA process, and the application of mitigation.
- Promote education and awareness of air resources on BLM lands.

Decisions about managing air resources must be made based on a good scientific understanding of airsheds and the pollutants in them. This includes improving our knowledge of air resource conditions through targeted air monitoring, and increasing BLM's ability to conduct regional landscape scale modeling to assess impacts to air quality. Developing regional, multiple-source impact assessments for BLM and non-BLM activities improves the ability of BLM and other federal and non-federal parties to assess impacts to air resources in Utah and take appropriate management actions. This ensures that strategies designed to meet BLM's responsibilities and resource management objectives will be effective, consistent, and demonstrable.

There are four main elements of the ARMS: airshed management, NEPA analysis, air monitoring, and public education and awareness. As an integrated and comprehensive strategy each element informs the other and is in turn dependent on each element being firmly rooted in good science and sound applied practices. The purpose of this document is to outline the functions and roles of these elements and how they will integrate into the overall management strategy.

Airshed Management

BLM Utah will consider the potential effects of BLM projects, programs, and activities on air quality at the planning, leasing, and project level as appropriate. This includes NEPA documents associated with Resource Management Plans, and evaluating the potential impacts, as appropriate, of proposed actions and activities. Examples of such activities include: energy and mineral resource development, hazardous materials management, land use authorizations, smoke management, recreational uses, and transportation management.

In addition to considering air quality in the planning and authorization stages, BLM Utah will actively manage air resources through the application of appropriate air pollution controls and technology. Consistent with BLM's authority to require air pollution controls on unpermitted and/or non-regulated sources, BLM Utah will consider and implement air pollution control requirements on relevant authorized activities. The implementation of these controls may take the form of lease stipulations, conditions of approval, best management practices and/or applicant committed measures, as appropriate based on need and authority. Air pollution control requirements and mitigation will be based on sound scientific evaluations, current air quality information, and be consistent with accepted practices and control technologies. One important tool BLM Utah will use to conduct long range air resource planning will be regional photochemical modeling utilizing a reusable modeling framework.

Regional Modeling – ARMS 2014

In 2011 BLM Utah undertook the development of a nested regional scale photochemical grid model (PGM) to examine the cumulative and project-specific direct and indirect air quality impacts of planned and reasonably foreseeable development (RFD) in the Uinta Basin of Utah due to recognized issues with ozone concentrations in that airshed. The modeling study also was used to assess a range of development scenarios and the effectiveness of potential control strategies. The modeling analysis was completed in 2014.

The 2010 Base Year and Typical Year modeling scenarios were assessed and modeled for cumulative air quality impacts as compared to each other. A 2021 future year using different pollution control scenarios was evaluated and modeled to determine cumulative air quality impacts compared to the air quality conditions for 2010 typical year. The modeled results from the 2021 scenarios were also compared to a 2021 future year on-the-books (OTB) controls scenario.

In general, it found that the highest modeled ozone occurs in the Uinta Basin study area regardless of model scenario and that all scenarios predict exceedences of the ozone NAAQS and state AAQS in the Uinta Basin. Typically, the ozone concentrations are highest during the winter period in the Uinta Basin. It is important to qualify that the model performance evaluation for ozone indicated a negative model bias during winter and a positive model bias during summer in the 4-km domain. A negative bias indicates that the model may predict lower concentrations than might actually occur and conversely a positive bias indicates that the model may predict higher concentrations than might actually occur. Therefore, for this study, the model-predicted winter concentrations might underestimate future concentrations and model-predicted summer concentrations might overestimate future concentrations.

During non-winter months in the Uinta Basin the model predicts that ozone may exceed the NAAQS and state AAQS; however, model-adjusted results from the MATS tool indicate that non-winter ozone concentrations are below the NAAQS and state AAQS for all monitors and areas analyzed. Furthermore, the future year mitigation scenarios have minimal effect on model-predicted ozone concentrations during non-winter months. For these reasons, the ozone assessment focused on the relative differences between the model scenarios and the corresponding effects on winter ozone concentrations in the Uinta Basin study area.

When evaluating the ozone impacts associated with the future year mitigation scenarios, 2021 Scenario 2 tends to have the lowest ozone relative to all other future year scenarios. The 4th highest daily maximum 8-hour ozone concentration in 2021 Scenario 2 is 3 ppb lower compared to the 2021 OTB Scenario, while 2021 Scenarios 1 and 3 are predicted to have higher ozone impacts than either the 2010 Typical year and the 2021 OTB Scenario. 2021 Scenarios 1 and 3 are fairly similar to each other. Both scenarios predict a relatively large increase in ozone concentrations within the vicinity of Ouray (where the concentrations are already largest) indicating potential ozone disbenefits associated with NOx control mitigation measures.

When comparing Scenario 2 to the OTB Scenario, a potential reduction in ozone concentrations occurs in the vicinity of the Ouray site. While the reduction of ozone is not particularly large, there is no predicted ozone disbenefit associated with Scenario 2 mitigation measures (i.e., there is no area with predicted ozone increases relative to the OTB Scenario). That Scenario 2, which is designed to reduce VOC emissions, provides the lowest ozone impacts of all future year scenarios supports the assessment that peak ozone impacts are in VOC-limited areas.

While all modeled NO2, CO, SO2, PM2.5, and PM10 values are well below the NAAQS and state AAQS in the Uinta Basin, the model performance is an important consideration to qualify and understand the model-predicted concentrations of these pollutants. The model performance evaluation for PM2.5 and PM10 indicated a negative model bias throughout the year in the 4-km domain with the largest bias occurring in summer. As a result, the model-predicted PM2.5 and PM10 concentrations may underestimate future impacts. Model-adjusted results from the MATS tool, which account for model performance biases, indicate that PM2.5 concentrations may exceed the NAAQS and state AAQS for select monitors and assessment areas. There are seven monitoring stations within the 4-km domain with daily PM2.5 concentrations that exceed the NAAQS and state AAQS during the baseline. All future model scenarios predict that only one of these monitoring station would continue to exceed the NAAQS and state AAQS. For annual PM2.5, no monitoring stations within the 4-km domain exceed the NAAQS and state AAQS during the baseline or future years; however, two unmonitored areas within the Uinta Basin exceed the NAAQS and state AAQS during the baseline and impacts in these areas tend to increase for all future year scenarios except for mitigation Scenario 3. It is predicted that under mitigation Scenario 3, the annual PM2.5 impacts would decrease in the Uinta Basin relative to the baseline due to a reduction of combustion control measures.

The future year scenarios generally have lower NO2, CO, SO2, PM2.5, and PM10 concentrations than the 2010 Typical Year scenario, except for areas within the Uinta Basin. In the future year, all assessment areas are within the applicable PSD increments for annual NO2, 3-hour SO2, annual SO2, and annual PM10 while most assessment areas exceed the 24-hour PM2.5 PSD increment.

<u>Regional Modeling – ARMS update</u>

It is generally recognized that the emissions inventories upon which these regional modeling studies are based are time limited, meaning the projections used to determine future year emissions estimates are likely to not be realized. Due to pace of development, application of future controls, field characteristics, and other known and unknown influences future year emissions are likely to be different than originally projected, sometimes substantially different. To address this, periodic updates may be warranted to refine modeling estimates based on these updated inventories.

The emission inventory developed for the ARMS modeling was completed in 2013, with a 2010 base year. Since that time actual well development and emissions controls have diverged from the projections used for this inventory. To evaluate the significance of this change BLM will update the base year emissions inventory with the most current years data available, and will expand the inventory to include Price County. The inventory update will be used to evaluate the need to run the regional modeling again to refine the impacts analyses. Updated meteorological data, boundary conditions, and model configurations will be included in any new modeling analysis. Base year simulations and sensitivity analysis, in particular sensitivity to oil and gas emissions inventory, will also be conducted.

Contingent on available funding, BLM may also analyze control sensitivities, jurisdictional inventory analysis (i.e. BLM only inventory vs total inventory), and other topical impacts that may be indicated by a review of the updated emissions inventory.

To conduct this inventory and modeling update BLM will utilize the Utah State University Bingham Research Center through an existing Assistance Agreement. As in the original inventory and modeling analysis the work will be reviewed through the Utah Air Resource Technical Advisory Group (RTAG), with the work products available for public review.

NEPA Analysis

The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment (40 CFR 1500.1(c)). To accomplish this, BLM Utah follows the procedures outlined in the BLM NEPA Manual Handbook (H-1790-1), the Council on Environmental Quality's (CEQ) NEPA regulations (40 CFR Parts 1500–1508) and the

Department of the Interior NEPA manual. In addition, the ARMS NEPA guidance borrows heavily from the recently developed National MOU Regarding Air Quality Analysis and Mitigation for Federal Oil and Gas Decisions through the NEPA Process. Furthermore, the BLM Utah has considered earlier NEPA improvement efforts made during their collaboration with the Federal Leadership Forum, including: “Effects Analysis, Reasonably Foreseeable Development Scenarios, and Cumulative Impact Analysis for Oil and Gas Activities on Federal Lands In the Rocky Mountain Region, August, 2002. The ARMS NEPA guidance is intended to refine existing agency guidance and procedures as it relates to air quality analysis and mitigation, and is not intended nor should be construed to require actions beyond or in conflict with the overarching guidance and procedures detailed in the documents above or otherwise prescribed by Federal law, policy, and/or guidance.

<u>Air Resource Technical Advisory Group</u>

A main goal of the ARMS NEPA guidance is to provide greater certainty and transparency for agencies, project proponents, and the public regarding the conduct and review of air quality and AQRV impact analyses in the NEPA process, and the application of controls and mitigation. One of the ways this will be accomplished is by emphasizing collaboration in the preparation of NEPA documents. To that end, BLM Utah has formed a technical advisory group (RTAG) composed of technical and policy experts from BLM, EPA, USFS, NPS, the Utah Department of Air Quality (UDAQ), and other Federal or Tribal stakeholders. The RTAG works to reach consensus on monitoring and modeling protocols, makes recommendations on appropriate mitigation strategies, and identifies air resource issues needing further attention.

To meet the goal of improving certainty and transparency, early and effective consultation is essential. The RTAG will be the primary venue for communicating upcoming NEPA projects with potential air resources issues to other Federal Agencies. This may include project specific Environmental Impact Statements and Environmental Assessments, Resource Management Plans, Leasing Plans, and programmatic NEPA documents.

When reviewing and advising NEPA related air quality analysis, BLM Utah will work with the RTAG to determine the appropriate:

a. Affected environment information to include in the baseline assessment;
b. Impact assessment methodology, assumptions, and scale (e.g. local and/or regional);
c. RFD assumptions;
d. Baseline and post-project monitoring protocols;
e. Adaptive management; and/or
f. Mitigation.

In addition to the above tasks, the RTAG will review any annual project-specific emissions inventories prepared pursuant to adaptive management strategies required by project-specific NEPA and provide recommendations on whether a “substantial increase” in emission has occurred, and what appropriate enhanced mitigation may be required to address any emission increases. The RTAG will also periodically review the enhanced mitigation list and regional air monitoring and provide suggestions on updates and/or improvements.

Analytical Procedures

NEPA analysis by definition is action-specific and each analysis is unique to the specific set of issues associated with the action. Therefore *a priori* determination by the ARMS of what analytical techniques and methodologies will be used for all future NEPA is not feasible or desirable. Some general guiding principles can be defined however to guide and inform the decision-making process on how air resource analysis will be conducted. For instance, a commitment that the analysis of air quality and AQRVs impacts will be done in accordance with current technical standards, guidance, and practices can be applied to all future NEPA analysis without reservation. Following are general guidelines on determining when and to what extent air resources will be analyzed under NEPA.

Emission Inventories

BLM Utah requires, when feasible, an emissions inventory for all projects where air quality has been identified as having a potential impact. Oil and gas projects will require an emission inventory in all cases when an RFD number of wells is defined *and* sufficient information is available to make equipment and control estimations needed for development of emissions factors. Subsequent level of analysis decisions, including modeling, will be based in part on quantitative information contained in the emission inventories. Basing level of analysis decisions on quantifiable emission inventory data will provide a defendable and scientifically justifiable methodology for these decisions.

Emission factor data used in the development of emissions inventories will to the extent possible rely on recognized publicly available data. Examples include AP-42: Compilation of Air Pollutant Emissions Factors (EPA), Intermountain West Data Warehouse (CIRA), and National or State agency emission inventory databases (e.g. NEI). Where specific emissions data is not available, emission factors may be developed using accepted good engineering practices and the methodology used to develop the emissions factors will be disclosed.

Modeling Analysis

BLM will conduct air quality modeling analysis if a proposed action meets at least one of the criteria in subparagraph (a) *and* at least one of the criteria in subparagraph (b) below:

a. *Emissions/Impacts* - the proposed action:
   - Is anticipated to cause a substantial increase in emissions based on a BLM approved emissions inventory; or
   - Will materially contribute to potential adverse cumulative air quality impacts.

b. *Geographic Location* - the proposed action is in:
   - Proximity to a Class I or sensitive Class II Area; or
   - A Non-Attainment or Maintenance Area; or
   - An area expected to exceed the NAAQS or PSD increment based on:
     - monitored or previously modeled values for the area;
     - proximity to designated Non-Attainment or Maintenance Areas; or
     - emissions for the proposed action based on a BLM approved emissions inventory.

A “substantial increase in emissions” for purposes of criteria *a. Emissions/Impacts* is a level of emissions that can be reasonably applied to a recognized modeling analysis methodology and be expected to show adverse impacts based on that modeling analysis. Considerations that may be used to determine this include New Source Review analysis threshold limits, Prevention of Significant Determination significance levels, demonstration of impacts from previous modeling analyses, regulatory permit emission thresholds, and professional judgement.

“Proximity to a Class I or sensitive Class II Area” may be determined by comparing projected emissions to the FLAG 2010 Q/d ratio for screening of projects with the potential for adverse AQRV impacts.

When conducting air quality modeling analysis, BLM will:

- Use appropriate tools and resources consistent with the best science, technical guidance, and rules;
- Build on existing air quality analyses, when appropriate;
- Seek concurrence from interested RTAG members; and
- Document its decisions.

If an air quality modeling analysis exists that addresses and describes the impacts for an area under consideration, or a completed regional air quality assessment can provide equivalent information, and is sufficient to enable BLM to access impacts of the proposed action, additional air quality modeling will not be required for specific actions. BLM in consultation with the RTAG will choose the appropriate approach. To meet the goal of promoting and supporting a regional perspective for air quality analysis, BLM will pursue programmatic NEPA evaluations for federal oil and gas decisions, such as the regional modeling conducted in the Airshed Management section of the ARMS. Modeling may also not be required if BLM in consultation with the RTAG demonstrates that due to design features or mitigation measures that will be implemented the proposed action will not cause a substantial increase in emissions and will not contribute to potential adverse air quality impacts.

<u>Model Selection</u>

BLM Utah will only accept EPA approved models for conducting modeling analysis. If multiple approved models can provide equivalent information, BLM in consultation with the RTAG will choose the appropriate approach. BLM Utah will also use the guidance presented in the Appendix to the MOU: Analysis Approaches to Evaluate Air Quality for NEPA Decisions Regarding Federal Oil & Gas. There are three general categories of air quality models used in NEPA: near-field models, far-field models, and photochemical models. Each will be described below along with their appropriate application in the ARMS.

Near-field Modeling

Near-field models are used to evaluate actions likely to result in local air quality impacts at transport distances less than 50km. These models will typically be used to conduct local scale modeling analysis with emission estimates, meteorological, and geographic information for single sources. They may also be used when the local air quality impact potential is estimated to be high. Near-field models include: AERMOD / AERSCREEN, VISCREEN, and PLUVUE II.

Far-field Modeling

Far-field models are used to evaluate actions that contain single (or small group) source scenarios at transport distances greater than 50km. These models are conducive to providing regional assessments of cumulative and incremental impacts. Typically project specific emission information will be needed, along with more regional meteorological and geographic information. Currently available far-field models include: CALPUFF and SCIPUFF.

Photochemical Modeling

Photochemical models are used to conduct regional scale modeling with project specific emission, meteorological, and geographic information with complex photochemical processes. This approach utilizes a regional scale one atmosphere simulation of a wide variety of pollutants with a large geographic extent. Emissions are gridded, allow for chemical transformation, and offer a variety of transportation mechanisms to address near and far-field transport. Impact estimates are generated for ambient concentration, atmospheric deposition, and AQRVs. Project-specific direct and indirect impacts will be determined using the ARMS regional photochemical model, either through a model sensitivity simulation, or by running the regional model utilizing source apportionment. Photochemical models include CMAQ and CAMx.

Additional Analytical Components and Procedures

In addition to the emission inventory and modeling guidelines outlined above, BLM will include the following components and procedures in air resource NEPA analysis when appropriate:

1. A comparison of action-specific impacts with the PSD increment levels will be presented to better understand impacts to Class I Areas. The comparison is for informational purposes and is not a formal PSD increment analysis nor is it intended to replace such an analysis.

2. A near-field analysis of Hazardous Air Pollutant (HAP) concentrations based on generally accepted exposure levels.

3. BLM will comply with the CAA conformity requirements under Section 176, 42 U.S.C. § 7506, and corresponding regulations at 40 CFR § 93.150 *et. seq*., where applicable.

4. Science-based threshold values and methodologies will be used when assessing impacts to AQRVs. When assessing potential impacts to AQRVs, BLM will apply BLM threshold values and methodologies for BLM administered lands, and will apply Federal Land Managers' Air Quality Related Values Work Group (FLAG) values and methodologies for FWS, NPS, and FS administered lands

5. BLM will identify, consider, and discuss in the body of the NEPA document:

   - Analysis results for both sets of threshold values to facilitate comparison of the results;

   - The relevant Federal Land Manager's views about: (a) the nature of impacts to AQRVs on the affected Federal Land Manager's land and (b) potential mitigation measures.

Mitigation

BLM will identify reasonable mitigation and control measures and design features to address adverse air quality or AQRV impacts in the NEPA process, and work with project proponents to include them either as Applicant-Committed Measures or mitigation measures under applicable NEPA procedures. Mitigation and control measures can include: best management practices, control technologies, design features, and pace of development. BLM will decide on the appropriate mitigation measures to reduce or eliminate adverse impacts* to AQRVs identified in the NEPA process and will describe them in the NEPA decision document.

To the extent allowed by law and consistent with lease rights and obligations, BLM will:

- Implement reasonable mitigation and control measures through appropriate mechanisms, including lease stipulations and conditions of approval, notices to lessees, and permit terms and conditions;
- Take appropriate steps to retain the ability to implement additional reasonable mitigation and control measures for permitted operations;
- Work to implement additional reasonable mitigation and control measures and design features to reduce future emissions from permitted operations.

Adaptive Management

Adaptive management in NEPA is a process to monitor and adjust NEPA mitigation measures due to changing conditions. The goal of adaptive management is to achieve desired outcomes by implementing changes or modifications without reinitiating the NEPA process. Adaptive management recognizes that over a project's life, changes in conditions (environmental or human-derived) can negate any environmental protections envisioned in the original analysis. Adaptive management is applied to NEPA through a continuous improvement process applied to monitoring and adaptation in NEPA-derived mitigation measures. Figure 1 is a schematic representation of the adaptive management process as it applies to NEPA.

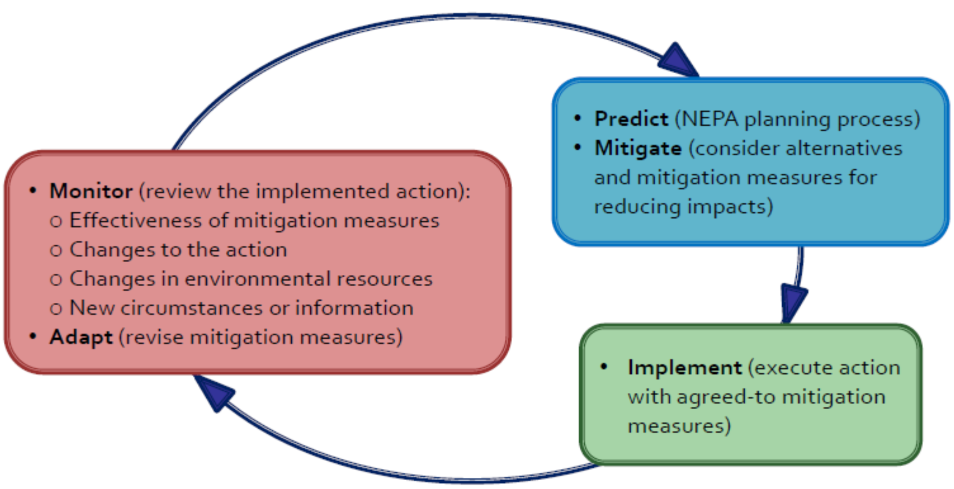

Figure 1

BLM Utah will consider adaptive management as an air resource mitigation measure for project specific NEPA when future environmental conditions and/or a projects potential impact on those conditions cannot be determined adequately with current information. Examples might include projects in areas that are seeing rapidly changing ambient air quality conditions, or where the future emission inventory cannot be determined adequately due to unknown variables, such as gas well forecast production vs. actual production.

Adaptive management as a mitigation measure will be based on outcome-based performance thresholds relevant to the air resource issue of concern (e.g. ambient monitored values, emission inventory changes, etc.), and will incorporate a monitoring plan that examines the environmental effects of the action to determine whether adjustments are necessary to avoid unpredicted effects. While it may not be possible to predict all adaptive management response to future events, BLM will strive to include adaptive measures that could be used within the range of alternatives whose impacts are analyzed, or specifically identify and analyze each of the adaptive measures as an alternative or part of an alternative. Project specific adaptive management criteria will be developed in consultation with the RTAG as part of the review process.

When adaptive management has been chosen as a mitigation measure the following components will be included and described in the relevant NEPA document:

- The proposed adaptive management approach
- How the approach is reflected in the alternatives being considered
- The monitoring protocol
- The desired outcome
- The performance measures that will determine whether the desired outcome is being achieved or an adaptive action is needed, and
- The factors for determining whether additional NEPA review is needed.

Contingency Plan

In the event project-specific NEPA modeling under the ARMS is not available for any reason, then air quality analysis conducted for specific projects will follow the guidance otherwise given in the ARMS, be consistent with the National MOU Regarding Air Quality Analysis and Mitigation for Federal Oil and Gas Decisions through the NEPA Process, and be performed in close consultation with the RTAG to determine appropriate analytical procedures, mitigation, and adaptive management requirements.

<u>Air Monitoring</u>

BLM may conduct targeted air monitoring to evaluate on-the-ground air resource conditions as needed and funding warrants and allows. BLM does not conduct air monitoring to determine attainment status of an area under the requirements of the Clean Air Act, that being a function of the appropriate federal, state, or tribal regulatory agency. BLM Utah maintains a limited portable self-contained air monitoring equipment inventory mainly focused on particulate monitoring (PM10, 2.5), ozone monitoring, and meteorology. Examples of the uses this equipment has been deployed for include: monitoring dust levels caused by truck traffic in areas of at-risk petroglyphs, validating modeled rural ozone levels, and long-term climate conditions.

In addition to fielding equipment owned and operated by BLM, cooperative partnerships will also be sought to help fund and operate monitoring in areas that will assist the BLM in managing public lands while also providing value to the monitoring partners. Examples include: assistance agreements with the Utah Dept of Environmental Quality to fund ozone monitoring in the Uinta Basin, cooperative agreements with the Ute Tribe to conduct aerial monitoring for VOC's. and collaborative studies with the U.S. Geologic Survey to conduct dust monitoring in southeast Utah.

In general, the purposes BLM Utah will conduct air monitoring for can by summarized as:

- Collect ambient air quality information for background and inventory purposes
- Evaluate air quality trends associated with BLM authorizations and activities
- Provide a quantitative measure for administration, agencies, and general public
- Validate modeling performance

Public Education and Awareness

As a public agency BLM is committed to complete transparency and believes in an informed and aware public. While air resource issues can be highly technical and complex, BLM Utah will make every effort to inform and educate the public about air resource issues on public lands and how we are managing the resource. Beyond the disclosure inherent in NEPA documents produced by BLM, two main venues will be used to disseminate air resource information to the public and other interested parties: a BLM Utah air resource web page, and a BLM Utah annual air resource report.

BLM Utah Air Resource Web Page

BLM Utah has developed an air quality and climate data web page linked from the Utah BLM home page. Currently under development is an interactive map linked to air and climate data that will allow the user to access monitoring data collected by BLM in Utah. Future plans include posting the ARMS on this page, links to ongoing studies and research relevant to BLM and Utah, and as a way to disseminate the annual air resources report.

BLM Utah Air Quality and Climate web page

https://www.blm.gov/programs/natural-resources/soil-air-water/air/utah

BLM Utah Annual Air Resource Report

BLM Utah will produce an annual report on air resource issues. These annual reports may include topics such as:

- Significant NEPA projects with air resource issues
- BLM air monitoring activities during the year
- Summary of other air monitoring data relevant to BLM managed lands
- Trend analysis on air quality issues of concern
- Topical reports on air quality issues of interest or concern
- Air resource management plans and issues for the coming year

Glossary

Airshed: A geographic area that, because of topography, meteorology, and/or climate, is frequently affected by the same air mass.

Ambient Air: The air occurring at a particular time and place outside of structures. Often used interchangeably with "outdoor air."

Air Quality Related Value (AQRV): A resource, as identified by a Federal Land Manager (FLM) for one or more Federal areas, that may be adversely affected by a change in air quality. The resource may include visibility or a specific scenic, cultural, physical, biological, ecological, or recreational resource identified by the FLM for a particular area. "These values include visibility and those scenic, cultural, biological, and recreation resources of an area that are affected by air quality" (43 Fed. Reg. 15016).

Attainment Area: A geographical area identified to have air quality as good as, or better than, the National Ambient Air Quality Standards (NAAQS). An area may be an attainment area for one pollutant and a nonattainment area for others.

Biogenic Source: Biological sources such as plants and animals that emit air pollutants such as volatile organic compounds (VOC). Examples of biogenic sources include animal management operations, and oak and pine tree forests.

Class 1 Area: As defined in the Clean Air Act, the following areas that were in existence as of August 7, 1977: national parks over 6,000 acres, national wilderness areas and national memorial parks over 5,000 acres, and international parks.

Conformity: A demonstration of whether a federally-supported activity is consistent with the State Implementation Plan (SIP) -- per Section 176 (c) of the Clean Air Act.

Dispersion Model: A mathematical relationship between emissions and air quality which simulates on a computer the transport, dispersion, and transformation of compounds emitted into the air.

Emission Inventory: An estimate of the amount of pollutants emitted into the atmosphere from major mobile, stationary, area-wide, and natural source categories over a specific period of time such as a day or a year.

Inversion: A layer of warm air in the atmosphere that prevents the rise of cooling air and traps pollutants beneath it.

National Ambient Air Quality Standards (NAAQS): Standards established by the United States EPA that apply for outdoor air throughout the country. There are two types of NAAQS. Primary standards set limits to protect public health and secondary standards set limits to protect public welfare.

Nitrogen Oxides (Oxides of Nitrogen, NOx): A general term pertaining to compounds of nitric oxide (NO), nitrogen dioxide (NO_2) and other oxides of nitrogen. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant, and may result in numerous adverse health effects.

Nonattainment Area: A geographic area identified by the EPA as not meeting the NAAQS for a given pollutant.

Ozone: A strong smelling, pale blue, reactive toxic chemical gas consisting of three oxygen atoms. It is a product of the photochemical process involving the sun's energy and ozone precursors, such as hydrocarbons and nitrogen oxides. Ozone exists in the upper atmosphere ozone layer (stratospheric ozone) as well as at the Earth's surface in the troposphere (ozone). Ozone in the troposphere causes numerous adverse health and is a criteria air pollutant.

Ozone Precursors: Chemicals such as non-methane hydrocarbons and nitrogen oxides, occurring either naturally or as a result of human activities, which contribute to the formation of ozone.

Particulate Matter (PM): Any material, except pure water, that exists in the solid or liquid state in the atmosphere. The size of particulate matter can vary from coarse, wind-blown dust particles to fine particle combustion products.

PM2.5: Includes tiny particles with an aerodynamic diameter less than or equal to a nominal 2.5 microns. This fraction of particulate matter penetrates most deeply into the lungs.PM2.5 also is a major contributor to visibility reduction.

PM10 (Particulate Matter): A criteria air pollutant consisting of small particles with an aerodynamic diameter less than or equal to a nominal 10 microns (about 1/7 the diameter of a single human hair). Their small size allows them to make their way to the air sacs deep within the lungs where they may be deposited and result in adverse health effects. PM10 also contributes to visibility reduction.

Prevention of Significant Deterioration (PSD): A permitting program for new and modified stationary sources of air pollution located in an area that attains or is unclassified for national ambient air quality standards. The PSD program is designed to ensure that air quality does not degrade beyond those air quality standards or beyond specified incremental amounts. The PSD permitting process requires new and modified facilities above a specified size threshold to be carefully reviewed prior to construction for air quality impacts. PSD also requires those facilities to apply controls to minimize emissions of air pollutants.

State Implementation Plan (SIP): A plan prepared by states and submitted to EPA describing how each area will attain and maintain national ambient air quality standards. SIPs include the technical foundation for understanding the air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

Volatile Organic Compounds (VOCs): Carbon-containing compounds that evaporate into the air (with a few exceptions). VOCs contribute to the formation of ozone and / or may themselves be toxic. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints.

Acronyms

AQRV	Air Quality Related Value
ARMS	Air Resource Management Strategy
BLM	Bureau of Land Management
CAA	Clean Air Act
CEQ	Council on Environmental Quality
EPA	Environmental Protection Agency
FLAG	Federal Land Managers' Air Quality Related Values Work Group
FLF	Federal Leadership Forum
FLM	Federal Land Manager
FRM	Federal Reference Method
FWS	Fish and Wildlife Service
NAAQS	National Ambient Air Quality Standards
NEI	National Emission Inventory
NEPA	National Environmental Policy Act
NPS	National Park Service
PGM	Photochemical Grid Model
POMS	Portable Ozone Monitoring Station
PSD	Prevention of Significant Deterioration
RFD	Reasonably Foreseeable Development
RMF	Reusable Modeling Framework
RMP	Resource Management Plan
RTAG	Resource Technical Advisory Group
SIP	State Implementation Plan
UDAQ	Utah Department of Air Quality
USFS	U.S. Forest Service

This document is policy, not a regulation or a law. It is meant to guide the actions of Utah BLM generally, but if particular circumstances warrant, BLM Utah may do something that might be contrary to the policy. In that event, BLM Utah will explain in writing why it deviates from the policy. BLM Utah reserves to itself all final air resource decisions it is charged to make, and that RTAG suggestions are advisory in that sense.